

What is claimed is:

1. A communication method on the Internet using an uni-directional communication line, comprising the steps of:

setting a route for receiving IP datagram to be transmitted to said communication line at the side for transmitting data to said communication line; and

setting another route for realizing a virtual communication route from the receiving side to said transmitting side on said communication line, for carrying out bi-directional communication.

2. A communication method according to claim 1, wherein said communication line is the communication line via a satellite.

3. A communication apparatus of a bridge type for carrying out communication using an IP protocol over an uni-directional communication line, comprising:

a first interface for receiving IP datagram to be transmitted to said uni-directional communication line; and

a second interface for realizing a virtual communication route from the receiving side to said communication apparatus on said uni-directional communication line for carrying out bi-directional communication.

4. A communication apparatus according to claim 3, wherein said communication line is the communication line via a satellite.

5. A communication method for connecting a second communication line capable of bi-directional communication to bridge type transmitting means for transmitting data to a first uni-directional communication line, thereby virtually carrying out the bi-directional communication over said first communication line, comprising the step of:

determining a destination of a packet inputted to said transmitting means through a predetermined interface, then determining which network the packet should be transferred to in accordance with the determined destination of the packet, and then transferring the packet through a predetermined interface only when transfer is necessary.

6. A communication method according to claim 5, wherein said transmitting means automatically detects addresses of nodes connected to the network at the transmitting side.

7. A communication method according to claim 6, wherein said transmitting means holds the automatically detected addresses of the nodes connected to the network at the

transmitting side in the form of a list, and said transmitting means determines whether or not the packet is transferred in accordance with said list.

8. A communication method according to claim 7, wherein said transmitting means regularly updates said list of the automatically detected addresses of the nodes connected to the network at the transmitting side, and said transmitting means deletes from said list the address of the node which does not transmit the packet for a fixed time period or longer.

9. A communication apparatus which is designed as bridge type transmitting means for transmitting data to a first uni-directional communication line, comprising:

an interface connected to a second communication line capable of bi-directional communication; and

control means for determining a destination of a packet inputted through a predetermined interface, then determining which network the packet is transferred to in accordance with the destination, and then executing transfer processing only when transfer is necessary.

10. A communication apparatus according to claim 9, wherein said control means includes detecting means for automatically detecting addresses of nodes connected to the

network connected to the interface.

11. A communication apparatus according to claim 10, comprising:

address storing means for holding the node addresses automatically detected by said detecting means in the form of a list,

wherein said control means determines whether or not the packet is transferred in accordance with said list stored in said address storing means.

12. A communication apparatus according to claim 11, wherein said control means regularly updates said list stored in said address storing means, and said control means deletes from said list the address of the node which does not transmit the packet for a fixed time period or longer.